

The **Cheap-Ass**  
Curmudgeon™

The Cheap-Ass  
Curmudgeon's Guide to:

**DIRT**

Hand building with Adobe, Papercrete,  
Paper-Adobe, and more...



in **HALF** the time  
with **HALF** the effort!

**Michael Van Hall**

# Yes it is and no you can't

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# The Heart of the Matter

*It is vain to do with more what can be done with less.  
-William of Occam*

Cheap-Ass Curmudgeon™ Books are about keeping it simple. They're about inspiring a fresh and creative approach to building. They're about giving up established ways of thinking to make room for new ideas. Throughout this book, I will be asking you to set aside many of your preconceived ideas to look at things from a fresh perspective—to let go of words like *best*, *most*, and *biggest* and

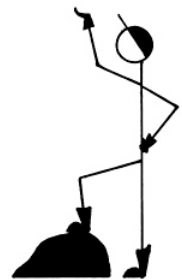
exchange them for words like *sufficient*, *simple* and *adequate*.



I'm not going to talk much about bond beams and lintels, plumbing and wiring, roof systems and floors, or even the virtues of thermal mass. There are a plethora of books out there on the technical aspects and the exact how-to of these subjects. I trust you will find the information you need in them.

Instead I'll talk about a host of creative ideas on how to turn your project into a work of art. I'll talk a great deal about building walls: the walls of your dream home, courtyard, workshop, studio, or any other walls you may wish to build. Most importantly, I'll show you how to build them in an entirely new way, in **half** the time and with **half** the effort.

I'll use adobe as my principle example, but the methods described herein can be used with any pourable building material, such as papercrete, pumicecrete, paper-adobe or concrete.



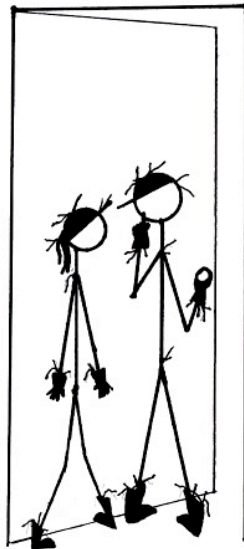
# Part I

## The Journey

*Adults are always asking kids what they want to be when they grow up because they are looking for ideas.*  
-Paula Poundstone

### From kid...

Remember when you were a kid? My sister and I were lucky. We grew up on a farm. We used to have great fun making forts in haystacks and using straw bales like big bricks to make secret rooms. We built igloos out of snow and made tunnels in the big drifts. I even tried to dig a hole in the back yard to make a hideout. I didn't get more than a foot down but I tried!



We were in touch with nature then, tromping into the house with our heads covered with straw and mud on our boots. Indoors, we did the same, making elaborate tunnels and rooms out of cardboard boxes and hanging up old sheets in the basement to “define” our space. Such fun.

## ...To adult

I'm sure everyone has childhood stories like these, but somewhere along the way, as we grow up, we allow ourselves to lose all that.

The fun disappears, and we find ourselves stuck in a dull world of sameness. We all live and work in a series of sealed-up sterile cubes. We've sealed up our houses, our cars, and even our lives. In doing so, we've sealed out life.

That happened to me. I turned into Mr. Clean. For years, I cleaned my house every week. I dusted the ledges above the windows and kept the top of the refrigerator spotless. I had anti-bacterial soap next to every sink, Lysol on the counter, and Listerine in the medicine cabinet. Everything was perfect, right down to the white carpet on the floors.

All perfect...but something was missing.

## ...And back again!

Then I met a couple of eccentric artist/builders. These guys were making stuff the way we used to as kids. They would nail a bunch of old boards together in any random shape, slap some used tin on top for a roof, then throw in a couple of old chairs. That was it—the perfect place to sit in the afternoons and compare life stories. A fort for grownups!

Everything they built was like that. If it was a house, they did all the things they needed to do to make it safe and functional. They did the plumbing, wiring, insulation, and such. They did all that necessary stuff but they had fun, too. When they were finished, it looked like nothing I had ever seen.



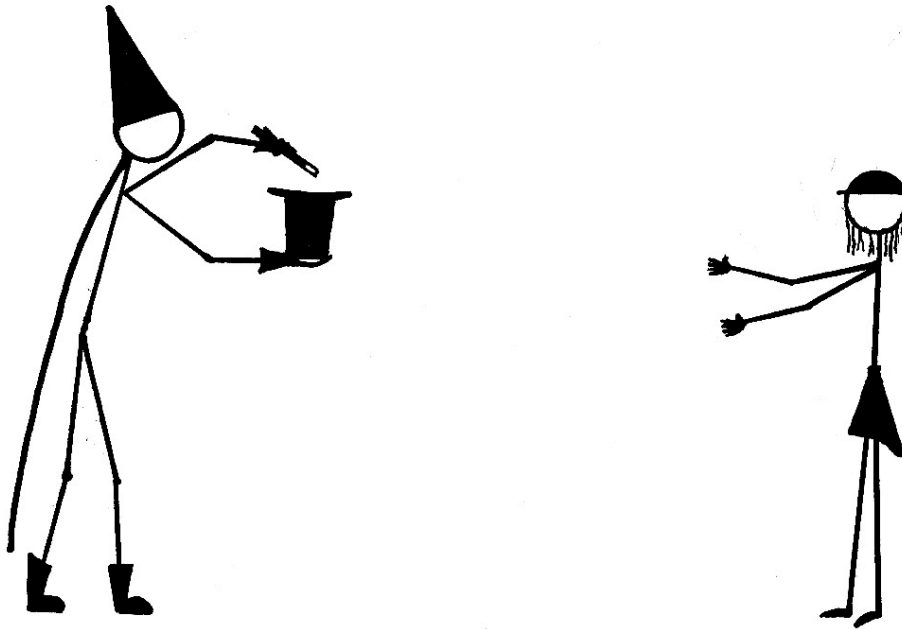
At every turn they wondered, *Why? Why do we have to do it that way? Let's try it this way!* And they would come up with some crazy new thing that was totally unconventional and looked awesome.

I loved it. Soon there were three of us having fun. We didn't just build...we created. We had giant driftwood trees coming out of walls, a drawbridge with a moat, a 20-foot waterfall and more. We even made tunnels connecting dwellings and underground rooms together.

That was the most fun I'd had since I was a kid, and I want to bring some of that spirit to you, here in this book.

I want YOU to loosen up and have some fun again. Think back to when you built that tree house or when you "fixed up" that little clearing in the woods or decorated the space under your bunk bed.

Bring some of that spirit with you as you read this book and maybe, just maybe, something magical will happen.



# Part II

## “Say What?”

*That which seems the height of absurdity in one generation often becomes the height of wisdom in the next.*  
-John Stuart Mill

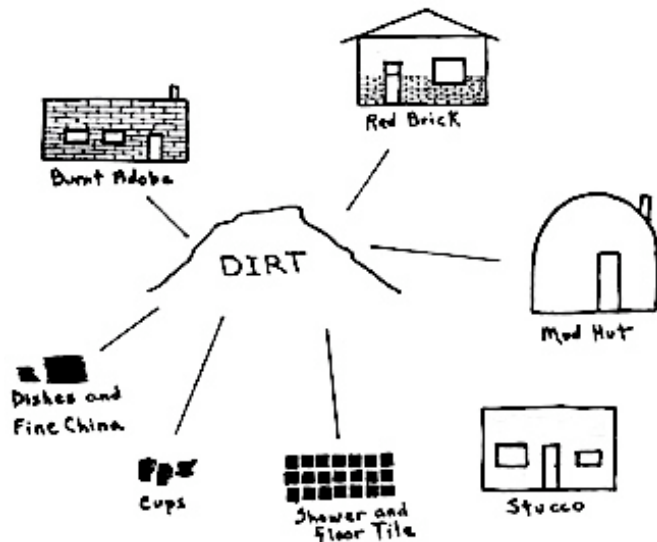
### We live in a world of DIRT

We all need to be reminded that much of our existence today is based on DIRT. We eat off of dishes, drink from cups, and cook in pots—all made out of DIRT. No, I’m not just talking about clay pots and cups, although those are made of dirt, too. I’m talking about ceramic dinnerware, your wedding china, the tile in your shower and even that tile on the floor...ALL DIRT.

In fact, many of us live in houses made out of DIRT. *No way, you say. We don’t live in mud huts!* No, we don’t, but we do live in houses like that big fancy brick house over there on the hill and that burnt adobe next door. Yup, those bricks and blocks are made out of DIRT.

Many of the stick-built houses all across the U.S. are covered with DIRT. It’s called stucco. That’s right, stucco is made from stuff in the ground—sand, clay, lime, gravel and such. In other words: DIRT.

Over half of the world’s population lives or works (or both) in structures made out of what we all think of as DIRT. Now add brick, burnt adobe, and stucco to the list and well...that’s a lot of people.



## It's not rocket science!

What exactly is a house? Webster's Dictionary defines it as *a building that serves as living quarters for one or a few families.*

I would define it here as *walls that define a space with a roof on top.*

There's really not that much to a house. Slap up four walls and a roof and you have what most people in this world call home. Now add some pipes, a few wires, a door and some windows and you've got a *modern* house. That's it.

I'm trying to alter your perception about what you have come to know as a house and to get you to see it in a different light.

Building a house is easy. It's building what your local permitting agency will approve that's difficult. It didn't used to be that way.

Back in the 1800s and early 1900s when my grandmother was young, a house was simply a dirt box. There were lots of houses made out of dirt. I'm not talking about adobe, clay, rammed earth, or bricks. I'm literally talking about DIRT. Some were very rough and not a lot of fun to live in, but the vast majority were nice homes that were warm and comfy, too. Many were even fancy. And no one had to ask for anyone's approval to build them either.

## The "Soddy"

Back in the day, lots of people lived in houses made out of sod. Yes, sod—just like the kind you buy at the nursery for your lawn, only thicker and tougher.

Back then, the pioneers cut large strips of sod—2' wide by 3' long—and stacked them up like bricks to make a house, interlocking them together like weaving a rug. They even laid them on the roof like shingles, grass side up, to repel the rain. (Nowadays it's called a "garden roof.")

These houses were called Soddys. The walls of Soddys were so thick that outside temperatures couldn't penetrate the interior. They stayed warm and toasty in the winter and cool in the summer.



And don't think that these Soddys were just temporary homes for poor folks. The affluent built their permanent houses out of sod, too. They had nice ceilings and floors, fancy doors and windows, and fancy trim—the whole nine yards. They even had the inside walls plastered like a “normal” house. The plaster was applied directly to the sod (dirt). No wire, no lathe. It stuck just fine and was quite durable.



*Interior of a North Dakota sod house, 1937.*

Some of these houses lasted 80 to 100 years. That's more than we can say about some of the homes we see going up today. The mass of grass roots woven throughout the sticky soil proved to be an excellent building material.

Soddys were a premium method of home building for nearly a hundred years. It wasn't until it became prestigious to have a stick-frame house—a sure sign of wealth—that the Soddys began to disappear. Even though it cost a lot to haul in the lumber and took a small fortune to heat these hollow-walled homes, owning a stick-frame house was a sign that you were keeping up with the Clampetts. You know the rest of the story.

## The old Mexican adobes



Here in Arizona, we have a fabulous selection of old Mexican adobe homes still in use today. Many of them have been restored (if you call repairing the exterior, while gutting and modernizing the interior, *restoring*) and are now lived in by more affluent homeowners.

Others remain as they have always been, in all their original glory. Both are made of non-stabilized adobe blocks and mortar. In other words: DIRT.

I have lived in a number of old adobe homes. They are very pleasant—cool in the summer and warm in the winter. And the sound-proofing from the traffic noise outside is excellent.

These are just some of the reasons building with adobe has become so popular again all over the Southwest. Houses with thick walls tout big energy savings, superior soundproofing, durability, and sustainability. And there is just something about them that makes the interior living environment very pleasant.

In the next chapter, I'll talk about adobe—dirt as it were—and how we've traditionally been building with it. Then, I'll show you something that will **knock your boots off!**



# Part III

*Reason has often failed us because it has seldom been tried.  
-Edward Abbey*

## Old Habits Die Hard

*The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore, all progress depends on the unreasonable man.  
-George Bernard Shaw*

### Adobe, the traditional way

There are lots of books out there on building with adobe. All of them that I am aware of essentially teach you to use the following steps:

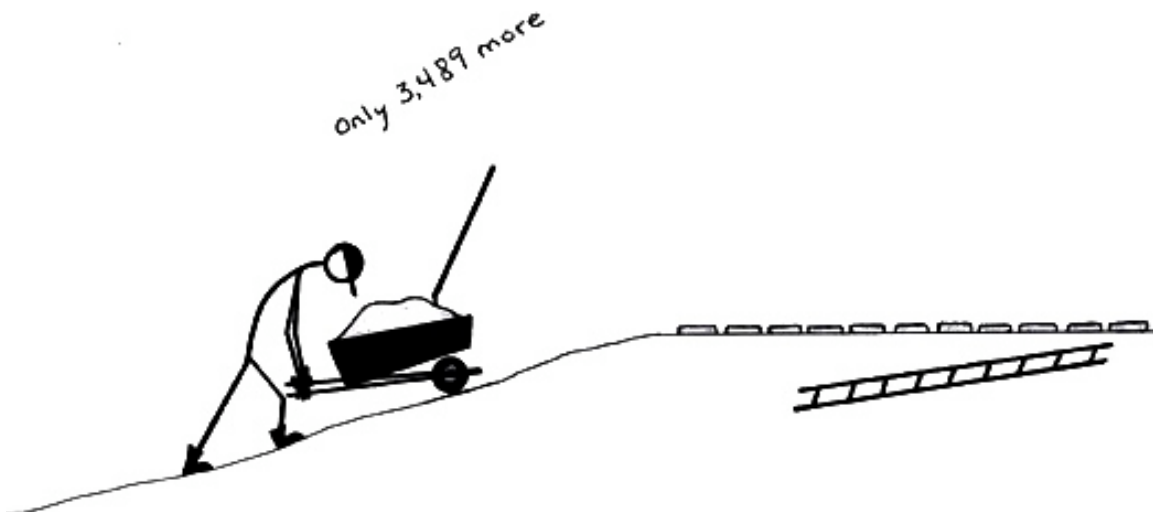
1. **Find the right material.** First, you will need to get lucky and find the perfect mix of clay/sand near your building site. If not, you will need to buy it and have it hauled in.
2. **Locate or make a field.** You will need to figure out how many blocks you are going to need to build your building, then use that number to figure out how big your drying area will need to be. That's that REALLY BIG FLAT SPOT ("field") you will need to have enough room to dry all those blocks you are going to make. For instance, an 800 square foot structure will need well over 3,000 blocks, and that's NOT including any interior adobe walls.



3. **Build lots of forms.** You will need to make a bunch of forms, the size of the blocks you have decided to use. Make enough for a good half-day of block-making.
4. **Mix the right mix.** Now start mixing. Mix the clay, sand, straw, and the stabilizer together. Make sure the composition of your mix is correct or your blocks will either get big cracks in them or they will tend to break and fall apart when you are moving or working with them. *(There are lots of “experts” out there that will tell you what their version of an “acceptable” soil composition is.)*



5. **Make your blocks.** When your batch is ready, dump it in a wheelbarrow and wheel it over to your drying field. Start filling your forms to make your blocks. Make sure you put a layer of straw under them, or they will stick to the ground and you will get a bigger block than you bargained for.



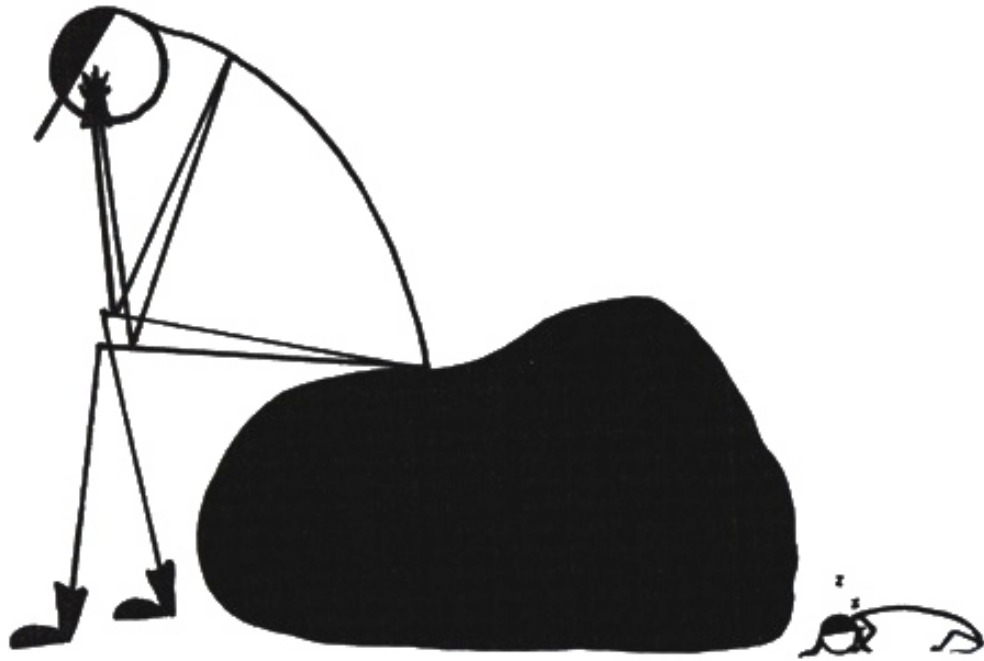
6. **Remove the forms.** When each batch of blocks has dried long enough for the blocks to hold their shape, carefully remove the forms. It may take 2-4 hours—longer or shorter—depending on outside temperature and humidity. Be careful, though; if you remove the forms too soon, the mud will be too soft and you'll destroy the nice, square shape of your blocks. If you wait too long, the forms will stick to the blocks and you will have a hell of a time getting the forms off without breaking them.



Once you get your forms off and all cleaned up, you will be ready to make your next set of blocks. Do this over and over again, for days on end, until you have enough blocks to build your building plus 5-10% more to allow for breakage.

7. **Wait.** Next comes the drying/curing process. Do not try to move your blocks until after you have let each batch dry for a couple of days, and then only to turn each block gently on its side. This will allow air to get at more of each block's surface, which will help to accelerate the drying process.





8. **Wait some more.** And keep waiting, for at least two weeks (more if the humidity is high) for the blocks to dry enough to attain adequate tensile strength so fewer will break when you pick them up and try to move them. (Some building codes mandate a minimum of three weeks' curing time prior to use.)

9. **Load 'em up.** Once your blocks have sufficiently dried, you'll need to haul them all from the drying field over to your building site. That's a lot of trips with the wheelbarrow! Distribute them around the footings so they will be somewhat easy to get at.



10. **Start building!** Here is where it starts to get a little more fun. Finally, after all that work, you can start mixing up more batches of mud to use as mortar, and start laying your blocks.

**All that time and energy spent before you can even lay the first block....Ugh!**  
I think this method should be called *The Masochistic Method for Building Your Dream Home*.

That's way too much damn work. In the next section, I'll show you how to skip all that nonsense and start building your walls right from the get-go!

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